



POLICY ROUNDTABLE:

Does America Need a Space Force?

September 18, 2018

We got four experts together to debate whether or not America needs a “space force,” and why.

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Editor's Note

For this roundtable, rather than asking our chair to introduce three essays on the creation of a space force, we asked the chair, in this case Joan Johnson-Freese, to write an essay and then had the three contributors respond.

1. One Good Reason For Creating a Space Force

Joan Johnson-Freese

On June 18, 2018, President Donald Trump directed the Department of Defense and the Pentagon to immediately begin the process of creating a space force as the sixth branch of the U.S. Armed Forces.¹ He was speaking at a National Space Council event where unveiling a new, much needed plan for space traffic management was the expected agenda. June wasn't, however, the first time the president had suggested creating a space force. Earlier, in March 2018, Trump made a similar suggestion as an offhanded comment during a speech in San Diego, though he later said both that he wasn't serious and that it was a "great idea" and "maybe we'll have to do that."² Then he mentioned it again in May at an event honoring the Army football team in Washington, D.C.³ The genesis of the president's direction appears attributable to Reps. Mike Rogers' (R-Ala.) and Jim Cooper's (D-Tenn.) 2017 congressional efforts to establish a Space Corps,⁴ so that Space would roughly be to the Air Force what the Marines are to the Navy. But that idea got sidelined in the 2018 National Defense Authorization Act, deferred by

¹ Katie Rogers, "Trump Orders Establishment of Space Force as Sixth Military Branch," *New York Times*, June 18, 2018, <https://www.nytimes.com/2018/06/18/us/politics/trump-space-force-sixth-military-branch.html>.

² Sandra Erwin, "Trump: U.S. Should Have a 'Space Force,'" *SpaceNews*, March 13, 2018, <https://spacenews.com/trump-u-s-should-have-a-space-force/>.

³ Mike Wall, "President Trump Teases 'Space Force' Idea Again for US Military," *Space.com*, May 2, 2018, <https://www.space.com/40471-trump-teases-military-space-force-again.html>.

⁴ Claudia Grisales, "Space Corps Could Take Flight in the Future," *Stars and Stripes*, Nov. 8, 2017, <https://www.stripes.com/news/space-corps-could-take-flight-in-the-future-1.496939>.

the time-honored Washington stall of calling for a study.⁵ Now though, Rogers and Cooper have reason to be giddy with success.

A skeptical colleague of mine asked me if I could give him even one good reason for the creation of a space force. I could: The Air Force is largely run by fighter pilots who will always give organizational and budget support first and foremost to “air dominance” aircraft and programs. Consequently, space, as an increasingly important domain because of the public and private information assets housed there, has always been the Air Force’s organizational stepchild.

But is that a good enough reason to create a sixth branch of military service? No. For military, political, organizational, and budgetary reasons, the creation of a space force is a bad idea. Assessing why first requires considering the president’s rationale for a space force.

Trump said this summer, “We must have American dominance in space.” What exactly that means, however, was left unclear. If he was referring to “space dominance” as analogous to “air dominance,” which is often equated to “air superiority,” that means “without prohibitive interference by the opposing force.”⁶ Air superiority, or dominance, is possible over a limited geographic space for a limited period of time. In space terms, how that would work is questionable, even

⁵ Joe Gould, “Space for a Space Corps? Congress Lays Groundwork for Controversial Plan,” *Defense News*, Nov. 21, 2017, <https://www.defensenews.com/space/2017/11/21/space-for-a-space-corps-congress-lays-groundwork-for-controversial-plan/>.

⁶ Phillip S. Meilinger, “Supremacy in the Skies,” *Air Force Magazine* (February 2016), <http://www.airforcemag.com/MagazineArchive/Magazine%20Documents/2016/February%202016/0216supremacy.pdf>.

from a physics perspective — the United States cannot stop all countries capable of launching into space from doing so indefinitely, 24/7, on a global basis. If it's a matter of presence, the United States already has more assets in space than any other country (which admittedly can be a vulnerability). And if it's about investments, the United States spends almost four times what any other country spends on space. The United States is also working on all of the technologies and capabilities that are worrisome when developed by other countries. In that respect, the United States has worked its way into an unsustainable space policy of “do as we say, not as we do.”

All of this being the case, and given that the United States is party to the 1967 Outer Space Treaty that grants all countries access to space, the creation of a space force will likely be seen as a signal the United States is ready to cross the Rubicon it and all others have heretofore avoided — overtly moving from the militarization of space that occurred in the 1940s to the weaponization of space. Pentagon officials, including Defense Secretary Jim Mattis, have said subsequent to the space force announcement that the United States has no plans to put weapons in space.⁷ But because of the dual-use nature of space technology, any country that has, for example, a maneuverable satellite, laser technology, or a missile defense program potentially has a space weapon capability. These and more exotic technologies already have been developed in the United States under the rhetorically Orwellian guise of “offensive counterspace” capabilities. In other countries, these same types of capabilities have been developed as catch-up

⁷ Robert Burns, “Mattis: US Needs Space Force to Counter Russia, China,” *Military Times*, Aug. 14, 2018, <https://www.militarytimes.com/news/your-military/2018/08/14/mattis-us-needs-space-force-to-counter-russia-china/>.

measures to the United States and to support their own strategic goals. If the United States crosses that Rubicon or is even perceived as moving closer to it — deterrence being all about perceptions — other countries certainly will as well. Restraint has benefitted the United States so far, especially given its self-created space vulnerabilities, and will in the future too.⁸ Consequently, it is not at all clear what a space force would do that isn't already being done.

Politically, a handful of diplomats at the State Department (smaller than the number of Pentagon individuals cooking up new space strategies as thought exercises) have been working for years to address real and near-term threats that cannot be addressed unilaterally or solely by the military, such as space debris, space situational awareness, and space traffic management. But diplomacy takes time, doesn't garner many headlines, and doesn't get much support from aerospace companies that would rather try to invent "Unobtainium" on a cost-plus contract. With Trump adamant about a space force being a "separate but equal" branch of the military (how an 1896 Supreme Court case establishing segregation in the United States is relevant is beyond me), perhaps simply allotting equal attention and budgets for both military and diplomatic space efforts would be more effective for protecting U.S. assets.

Unquestionably, other countries are advancing their space capabilities and seeking to exploit U.S. vulnerabilities. The United States must take actions and seek efficiencies aimed at protecting U.S. space assets. None of those actions or

⁸ Theresa Hitchens and Joan Johnson-Freese, *Toward a New National Security Space Strategy*, Atlantic Council, June 17, 2016, <http://www.atlanticcouncil.org/publications/reports/toward-a-new-national-security-space-strategy-time-for-a-strategic-rebalancing>.

efficiencies, however, require a new bureaucracy. Just within the defense establishment alone, there are over 60 agencies that deal with space-related issues and missions. Kludging them into a single entity would be an expensive, time-consuming nightmare. Though the Pentagon has not yet released an estimate of what start-up costs for a space force might be, Deputy Defense Secretary Patrick Shanahan has speculated that it could be “billions.”⁹

There are many lessons to be learned from the past bureaucratic over-reactions that resulted in the Department of Energy during the Carter Administration and, more recently, the Department of Homeland Security, which integrated 22 organizational entities and ushered in a decade of organizational chaos.¹⁰ Further, just the start-up costs of a new branch of the military could be better spent on actual efforts to address space debris, space situational awareness, space traffic management, resiliency, and redundancy than on snazzy new Buck Rogers-inspired uniforms, a band (every other military service has a band), and offices with a window.

The Pentagon earlier agreed with me that a space force was not needed. Mattis stated in a letter to Congress in 2017, “At a time when we are trying to integrate

⁹ Ellen Mitchell, “Pentagon’s No. 2 Official: Trump’s Space Force Could Cost ‘Billions,’” *Hill*, Aug. 9, 2018, <http://thehill.com/policy/defense/401177-pentagons-no-2-official-trumps-space-force-could-cost-billions>.

¹⁰ Joan Johnson-Freese and Thomas M. Nichols, “Homeland Security Department: Colossal, Inefficient Boondoggle,” *Breaking Defense*, Sept. 6, 2011, <https://breakingdefense.com/2011/09/homeland-security-department-colossal-inefficient-boondoggle/>; Joan Johnson-Freese, “DHS: The Department of Everything?” *Breaking Defense*, March 27, 2015, <https://breakingdefense.com/2015/03/dhs-the-department-of-everything/>.

the department’s joint warfighting functions, I do not wish to add a separate service that would likely present a narrower and even parochial approach to space operations.”¹¹ In August of 2018, however, Mattis said he supported the idea of a space force as a sixth branch of the military, to protect against attacks on satellites such as China demonstrated itself capable of in 2007.¹² Why, between 2017 and 2018, the relevance of China’s 2007 anti-satellite test changed — other than to be in line with the president’s whim — is unclear.

The parochial aspect of a space force is worth consideration. Space isn’t “somewhere” in the military. It’s everywhere, used by everyone. The academic version of this debate was going on in 1996 when I was teaching at the Air War College: whether to have a stand alone academic department for space studies, or integrate space material throughout the curriculum? Stovepiping never works if integration is the desired end state.

Regardless of a space force’s merits, it’s not yet evident that it will become a reality. Though Trump “directed” Joint Chiefs Chairman Gen. Joseph Dunford to create a space force, establishing a new bureaucracy is not that easy. It would require action by Congress to change Title 10, the code that says which services are responsible for what. Vice President Mike Pence announced, in August, that a formal proposal will be made to Congress for that action as part of the FY2020 budget request in 2019, and the new department created by 2020. In the meantime, the Pentagon has announced the reconstitution of U.S. Space Command as the eleventh unified military command for space. Space Command had been merged

¹¹ Rogers, “Trump Orders Establishment of Space Force .”

¹² Burns, “Mattis: US Needs Space Force.”

with U.S. Strategic Command, in 2002, when Northern Command was created, to keep the unified military commands within a cap of ten. That move makes sense and is supported by a large cadre of not just analysts, but space security practitioners.¹³

A space force may be needed some time in the future, perhaps to protect commercial interests such as originally justified the U.S. Navy,¹⁴ and incrementally working toward that is a prudent approach. There is a renewed U.S. interest in space warfighting, including planning for a “limited” space war, whatever that would mean. There are important and inadequately understood links between space, cyber, and nuclear issues. And the U.S. military would be remiss not to be prepared for hostile action potentially taken against U.S. space assets. More and better training for military members responsible for space assets is, therefore, imperative. More emphasis on issues like space debris, space situational awareness, space traffic management, deterrence, resiliency, and redundancy is needed too. There are many areas and issues regarding space that need focused and consistent U.S. attention. But building a new bureaucracy is not one of them at this time. When someone badly wants something done quickly, they can get it quickly, but most often badly.

¹³ Marcia Smith, “Space Force Skeptics Laud Unified Space Command,” *SpacePolicyOnline*, Sept. 10, 2018, <https://spacepolicyonline.com/news/space-force-skeptics-laud-unified-space-command/>.

¹⁴ Sarah Sicard, “How Pirates Made the US Navy Into the Strongest Sea Force on Earth,” *Task and Purpose*, Sept. 19, 2017, <https://taskandpurpose.com/pirates-navy-history/>.

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2. Four Good Reasons Why the U.S. Needs a Space Force

Namrata Goswami

To be sure, a space force is not President Donald Trump’s brainchild, despite his announcement over the summer to create it as a “separate and equal branch” of the military. In fact, the Trump White House had earlier resisted the idea.¹⁵ Reps. Mike Rogers (R-Ala.) and Jim Cooper (D-Tenn.), chairman and ranking member of the House Armed Services Subcommittee on Strategic Forces, respectively, advocated for including language favoring the creation of a “Space Corps” in the 2018 National Defense Authorization Act.¹⁶ The language, however, was scrapped from the final legislation,¹⁷ which instead contained directions for two studies to be conducted on the matter.¹⁸ Rogers and Cooper issued a statement thereafter stating,

We are pleased the National Defense Authorization Act for Fiscal Year 2018 takes the first step in fundamentally changing and improving the national security space programs of the Department of Defense and the U.S. Air Force in particular. ...The Air Force will no

¹⁵ Joe Gould and Valerie Insinna, “Trump, Mattis lose as ‘Space Corps’ Proposal Survives in Defense Policy Bill,” *DefenseNews*, July 13, 2017, <https://www.defensenews.com/congress/2017/07/13/trump-mattis-lose-as-space-corps-proposal-survives-in-defense-policy-bill/>.

¹⁶ Gould and Insinna, “Trump, Mattis lose.”

¹⁷ “National Defense Authorization Act for Fiscal Year 2018,” H.R. 2810, 115th Cong. (2018), <https://www.congress.gov/bill/115th-congress/house-bill/2810/text>.

¹⁸ “National Defense Authorization Act for Fiscal Year 2018.”

longer be able to treat space as a third-order priority after fighter jets and bombers.¹⁹

The Department of Defense's interim report to Congress on March 1, 2018, specified, "While the United States has historically maintained a technological advantage over potential adversaries, those countries are rapidly leveraging technology to counter the U.S."²⁰ On Aug. 9, 2018, the Pentagon issued its final report on the subject, recommending the creation of a separate Department of the United States Space Force, a unified Space Command, and Space Operations Force, to be assisted by a new civilian position, that of an assistant secretary of defense for space.²¹ Establishing a space force will require congressional approval — in particular, revisions to U.S. Code Title 10. Vice President Mike Pence set a deadline of 2020 to achieve that task.²²

¹⁹ "Chairman Rogers and Ranking Member Cooper Joint Statement on Fundamental Space Program," Nov. 8, 2017, <https://mikerogers.house.gov/press-release/chairman-rogers-and-ranking-member-cooper-joint-statement-fundamental-space-reform>.

²⁰ "Interim Report on Organizational and Management Structures for the National Security Space Components of the Department of Defense," Department of Defense, March 1, 2018, <https://fas.org/man/eprint/dod-space.pdf>, 3. Also see Annex 2.

²¹ "Final Report on Organizational and Management Structure for the National Security Space Components of the Department of Defense," Department of Defense, Aug. 9, 2018, at <https://media.defense.gov/2018/Aug/09/2001952764/-1/-1/1/ORGANIZATIONAL-MANAGEMENT-STRUCTURE-DOD-NATIONAL-SECURITY-SPACE-COMPONENTS.PDF>.

²² "Pence Lays Out Plans for Trump's 'Space Force' to be Installed by 2020," *CBS News*, Aug. 9, 2018, <https://www.cbsnews.com/news/space-force-update-mike-pence-announcement-today-2018-08-09-live-stream/>.

In her essay, “One Good Reason for Creating a Space Force,” Joan Johnson-Freese argues that, although space has been the Air Force’s “stepchild,” such a lowered status is not a “good enough reason” to establish a separate branch of the military. She infers that the establishment of a space force has negative geopolitical ramifications because it implies that the United States is signaling to other nations that it is “overtly moving from the militarization of space that occurred in the 1940s to the weaponization of space.”²³ Johnson-Freese insists that the existing diplomats at the State Department and the 60-odd organizations within the Pentagon tasked with working on space are already doing what the space force would be mandated to do: space debris management, space situational awareness, and space traffic management.

This is not wrong, but rather incomplete. There are four good reasons — not one — why the United States needs a “Space Force.”

First, China’s increasing space capabilities — including its ability [to hack into U.S. weather service satellites](#),²⁴ orbit and map the moon, and travel to the sun’s L2 point and near-earth asteroids — [creates the urgent need](#) for a dedicated U.S. Space Force to protect growing U.S. commercial and military interests in space.²⁵

²³ Joan Johnson-Freese, “One Good Reason for Creating a Space Force,” *Texas National Security Review*, Forthcoming.

²⁴ Everett Rosenfeld, “Chinese Hack US Weather System, Satellite Network: Wash Post,” *CNBC*, Nov. 12, 2014, <https://www.cnbcm.com/2014/11/12/chinese-hack-us-weather-systems-satellite-network-washington-post.html>.

²⁵ “Opening Remarks of Chairman Rogers at Subcommittee on Strategic Affairs,” House Armed Services Committee, June 22, 2017, <https://armedservices.house.gov/news/press-releases/opening-remarks-chairman-rogers-21>.

The leaders of China's Communist Party, including President Xi Jinping, are realists when it comes to setting China's ambitions in space. During the 1990s and 2000s, the Communist Party followed a policy of "keeping a low profile" based on its "relative power" assessment vis-à-vis the United States. Peaceful coexistence was the norm during this period.²⁶ However, China's relative power has strengthened since then. Consequently, Xi has emphasized his resolute commitment to the China dream (rejuvenation of the Chinese nation).²⁷ In 2016, China's top policymaker in space, Gen. Zhang Yulin, former deputy chief of the Armament Development Department of the Central Military Commission, now the People's Liberation Army's (PLA) Strategic Support Force, asserted, "The earth-moon space will be strategically important for the great rejuvenation of the Chinese nation."²⁸ He specified that China will exploit the abundant resources available in outer space. To that end, China instituted military reforms in 2015 and established the Strategic Support Force, to take advantage of what it predicted would be a vibrant space economy.²⁹ While inspecting these new forces in August 2016, Xi stated that "the strategic support force is a new type of combat force to secure national security and an important aspect of the [PLA's joint operations system](#)."³⁰ In his report to the 19th National Congress of the Communist Party of

²⁶ Suisheng Zhao, "A New Model of Great Power Relationship and China-US Competition in the Asia-Pacific," Italian Institute for International Political Studies, analysis no. 211 (November 2013), 211, https://www.ispionline.it/sites/default/files/pubblicazioni/analysis_211_2013.pdf.

²⁷ Zhao, "A New Model of Great Power Relationship."

²⁸ "Exploring Earth-Moon Space: China's Ambition After Space Station," *Xinhua*, March 7, 2016, http://www.xinhuanet.com/english/2016-03/07/c_135164574.htm.

²⁹ Xinhua, "Strive to Build a Strong, Modern Strategic Support Force: Xi," *ChinaMilitary*, Aug. 29, 2016, http://eng.chinamil.com.cn/view/2016-08/29/content_7231309.htm.

³⁰ Xinhua, "Strive to Build a Strong, Modern Strategic Support Force."

China in 2017, Xi highlighted the critical need to turn the PLA into a force capable of domination in the air, sea, land, and space domains by 2050.³¹ On April 24, 2018, on China's third Space Day celebration, the China National Space Administration released a video stating China's ambitions to build a lunar colony by 2030.³² Ye Peijian, head of China's Lunar Mission, stated that

[t]he universe is an ocean, the moon is the Diaoyu Islands, Mars is Huangyan Island. If we don't go there now even though we're capable of doing so, then we will be blamed by our descendants. If others go there, then they will take over, and you won't be able to go even if you want to. This is reason enough.³³

In 2017, the China Aerospace Science and Technology Corporation laid out a road map to make China the global leader in space technology by 2045.³⁴ Lu Yu, senior rocket engineer at the corporation, stated that, by 2040, "The nuclear-powered space shuttle will be built. It will enable large-scale resource exploration in space and mining on asteroids, as well as the building of space solar-power stations."³⁵ Li Ming, research fellow at the China Academy of Space Technology, indicated that

³¹ "Full Text of Xi Jinping's Report at 19th CPC National Congress," *China Daily*, Nov. 4, 2017, http://www.chinadaily.com.cn/china/19thcpcnationalcongress/2017-11/04/content_34115212.htm.

³² "China Video on Lunar base," *ChinaNews*, accessed Aug. 2, 2018, <http://www.chinanews.com/m/sh/shipin/cns-d/2018/04-24/news765876.shtml>.

³³ "Space: The Next South China Sea," *Maritime Executive*, July 13, 2018, <https://www.maritime-executive.com/editorials/space-the-next-south-china-sea#gs.8SP=u7U>.

³⁴ Ma Chi, "China Aims to Be the World's Leading Space Power by 2045," *China Daily*, Nov. 17, 2017, http://www.chinadaily.com.cn/china/2017-11/17/content_34653486.htm.

³⁵ Chi, "China Aims to Be."

China is at present leading in research on space-based solar power, and will be the first country to build such technology.³⁶ China's success rate in meeting its past space goals foretells that they will have little trouble meeting their stated future goals in that arena.³⁷ Wang Cheng, a Chinese intellectual, noted back in 2000 in an article titled, "The US Military's 'Soft Ribs,' A Strategic Weakness," that, "For countries that can never win a war with the U.S. by using the method of tanks and planes, attacking the U.S. space system may be [an irresistible and most tempting choice](#)."³⁸

Second, with increasing U.S. commercial and private activities in outer space, a dedicated space force is required to deal with any future conflict in space.³⁹ The U.S. government, including its military, [is constitutionally obligated](#) to protect not only military space assets but also commercial and U.S. private sector activities in the cislunar space that lies between the earth and the moon's orbit.⁴⁰ For instance, in 2015, the U.S. Congress passed the "US Commercial Space Launch

³⁶ Sen Wenyu, "China Holds Leading Position in Research of Space-Based Solar Power," *People's Daily*, Nov. 2, 2017, <http://en.people.cn/n3/2017/1102/c90000-9288036.html>.

³⁷ Namrata Goswami, "China in Space: Ambitions and Possible Conflict," *Strategic Studies Quarterly* 12, no. 1 (Spring 2018), http://www.airuniversity.af.mil/Portals/10/SSQ/documents/Volume-12_Issue-1/Goswami.pdf.

³⁸ Mark Williams Pontin, "China's Antisatellite Missile Test: Why?" *MIT Technology Review*, March 8, 2007, <https://www.technologyreview.com/s/407454/chinas-antisatellite-missile-test-why/>.

³⁹ Dustin L. Grant and Matthew J. Neil, "The Case for Space: A Legislative Framework for an Independent United States Space Force," Air Command and Staff College (April 2018), <http://www.airuniversity.af.mil/Portals/10/Research/Space-Horizons/documents/1053020.pdf?ver=2018-07-17-121154-067>.

⁴⁰ "This is our Sputnik Moment," *OKG News*, Nov. 6, 2016 at <http://okgrassroots.com/?p=642815>.

Competitiveness Act,”⁴¹ which entitles U.S. citizens to own space and asteroid resources as “private property,” acquired [per the law and international obligations](#).⁴² What happens if such U.S. property or critical infrastructure is threatened by a rival nation or party? Who comes to the American property owners’ aid? The 2015 act states, “It is the sense of Congress that the Department of Defense plays a vital and unique role in protecting national [security assets in space](#).”⁴³

Third, so long as space remains second to Air Force priorities, it will never get the focus it needs given the rapid advances being made in space by other nations. America needs a liberated bureaucracy that can think about space on its own terms, and develop concepts and doctrine without the baggage of airpower or “airminded” thinking. In truth, the United States already owns nearly all the bureaucracy necessary — it just needs to consolidate it and liberate it from being subservient to other domains. Critics might argue that the creation of another service would challenge integration and joint warfighting,⁴⁴ but integration is not a service function. Rather, it is a joint function done by the Joint Staff and combatant commands. And if it is indeed such a problem, why have separate services at all and not just one *joint* military?

⁴¹ “U.S. Commercial Space Launch Competitiveness Act, 2015,” H.R. 2262, 114th Cong. (2015), <https://www.congress.gov/bill/114th-congress/house-bill/2262/text>.

⁴² “Dr. Scott Pace: Space Development, Laws and Values”, Lunch Keynote at IISL Galloway Space Law Symposium, Dec. 13, 2017, <https://spacepolicyonline.com/wp-content/uploads/2017/12/Scott-Pace-to-Galloway-Symp-Dec-13-2017.pdf>.

⁴³ “U.S. Commercial Space Launch Competitiveness Act, 2015,” n. 30.

⁴⁴ Gould and Insinna, “Trump, Mattis lose.”

Fourth, a space force with a singular mission implies personnel focused on securing space, more like a “coast guard function” than simply a “war-fighting” one with the corresponding capabilities. It implies service promotions will depend on achievements in space, encouraging and rewarding a space-domain culture. It implies separate recruitment requirements and procedures, a separate Space Force Academy and University, and institutional pride for achievements in space. Most importantly, it implies curriculum suitably focused on building space expertise, especially in a future where space presence and a space economy will only multiply.

The field of strategic studies is not only about learning from hindsight but also anticipating the future.⁴⁵ The future of outer space is such that states will compete to establish space presence and benefit from space resources. By establishing a space force, the United States is signaling to other spacefaring nations that it is not only paying attention but is also willing to contest leadership in space — and that it is likely to grow in competence because of dedicated professionals and focus. This is likely to set a standard which may influence how others organize their space activities.

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⁴⁵ Richard K. Betts, “Is Strategy an Illusion?” *International Security* 25, no. 2 (Fall 2000),

<https://www.jstor.org/stable/2626752>.

3. I'll Give You Five: Yes, We Do Need a Space Force

Doug Loverro

In her well-argued article, “One Good Reason for Creating a Space Force,” Joan Johnson-Freese maintains that the one rationale favoring a space force — that bureaucratically, space “has always been the Air Force’s organizational stepchild” — is an insufficient reason to actually create one. She claims political, organizational (read: bureaucratic), and budget reasons against a space force outweigh this one possible advantage of creating one. And she’s right!

If this were the only reason for creating the space force, it would be an insufficient rationale to bring one into existence. But far more persuasive reasons exist. Let me outline five.

Reason 1: Fragmented Control and Its Consequences

In 2001, the Commission to Assess United States National Security Space Management and Organization released its report on the state of the organization of space within the Department of Defense.⁴⁶ Its commissioners unanimously concluded, among other findings, that

⁴⁶ “Report of the Commission to Assess United States National Security Space Management and Organization,” Jan. 11, 2001, Pursuant to Public Law 106-65,

<https://fas.org/spp/military/commission/report.htm>.

the security and well being of the United States, its allies and friends depend on the nation's ability to operate in space. Therefore, it is in the U.S. national interest to ... Develop and deploy the means to deter and defend against hostile acts directed at U.S. space assets and against the uses of space hostile to U.S. interests.⁴⁷

It was clear to the commissioners, even then, that threats against space capabilities were rising, that the United States was highly dependent upon those capabilities, and that, without a focused effort to deter and defend against those threats, U.S. warfighting readiness would be put at risk. That was Jan. 11, 2001. Precisely six years later, the Chinese punctuated that visionary warning by demonstrating a highly sophisticated anti-satellite missile, using it to shoot down one of their own satellites. Fervor and public outcry were followed by concern and apprehension — but nothing changed, initially. It would take another eight years for the Department of Defense to react,⁴⁸ and even then, it faced significant pushback from all the military services.

Why did it take 14 years from identification of the issue (and another eight years from a vivid demonstration of the threat) for the Defense Department to react? Fragmented control and lack of advocacy: No single player or organization is “in charge” of space. Leadership on the issue within the Department of Defense is fragmented across services, combatant commands, and departmental functional

⁴⁷ “Report of the Commission to Assess,” Executive Summary, 7.

⁴⁸ The first major investment responding to the threats in space were included in the Department of Defense's 2016 budget submittal: Warren Ferster and Mike Gruss, “The Price of Space Dependence,” *Space News Magazine*, Jan. 4, 2016, <http://www.spacenewsmag.com/feature/the-price-of-space-dependence/>.

lines.⁴⁹ If not for exceptionally forceful pressure from the White House, beginning in 2013, it's not even clear that the Defense Department would have reacted when it eventually did.

The Department of Defense's fragmented control model means that space lacks forceful advocacy within the department. Without forceful advocacy, threat response occurs more slowly, with less focus, and fewer resources than it would with an empowered, responsible advocate. Other domains of warfare have clear advocacy, and thus focus, in each of the armed services. When issues arise that threaten those domains, the services naturally react with vigor — but that doesn't happen for space because there is no space service.⁵⁰ The predictable and observed consequence is a failure to act.

Reason 2: The Lack of a Space Doctrine

In 2017, military doctrine expert Aaron P. Jackson wrote, “Doctrine is a tangible representation of a military’s institutional belief system regarding how that

⁴⁹ According to Department of Defense Directive 5100.01, “Functions of the Department of Defense and its Major Components,” the following offices all have specifically assigned space responsibilities: Chief Information Officer (CIO), Office of the Undersecretary of Defense for Policy, Office of the Undersecretary of Defense for Intelligence, Office of the Undersecretary of Defense for Automation, Technology, and Logistics,* the Army, the Navy, the Air Force, Defense Information Services Agency, the National Reconnaissance Office, the Joint Chiefs of Staff, and U.S. Strategic Command. [*NB: 5100.01 has not been updated to reflect the new Undersecretary of Defense for Acquisitions and Services and Undersecretary of Defense for Research and Engineering Structure].

⁵⁰ I have written previously on how organizational identity and advocacy interplay within a military service: Douglas Loverro, “Why the United States Needs a Space Force,” *Space News*, June 25, 2018, <https://spacenews.com/why-the-united-states-needs-a-space-force/>.

military understands, prepares for and ... conducts military activities.”⁵¹ He goes on to observe that “... doctrine differs from theory because it is *institutional*.”⁵²

(Emphasis added.)

Within the Department of Defense, the services develop doctrine: land warfare doctrine by the Army, naval doctrine by the Navy, and air doctrine by the Air Force. Doctrine determines force size and structure, how the services “present” forces to a combatant commander, and the best theories on how to integrate forces from that domain into a joint battle. Doctrine is written by a service focused on a domain — except when it comes to space. Space doctrine is written by the Joint Chiefs of Staff.⁵³ That is more problematic than it might seem.

Doctrine is normally based on the sum of years of warfighting experiences and lessons, distilled down to their essence. As stated above, doctrine dictates how to understand and prepare for military activities within a given domain — what to buy, how to train, and whom to enlist. Because America has no warfighting experience in space, it must substitute the results of theory, analysis, exercises,

⁵¹ Jackson’s doctoral thesis was entitled, “Dissecting Doctrine: Military-Strategic Level Doctrine Development in the Australian, Canadian and New Zealand Armed Forces, 1987-2007.” He was an adjunct lecturer at the University of New South Wales and has written and blogged on military doctrine for over a decade.

⁵² Aaron P. Jackson, “The Nature of Military Doctrine: A Decade of Study in 1500 Words,” *Strategy Bridge*, Nov. 15, 2017, <https://thestrategybridge.org/the-bridge/2017/11/15/the-nature-of-military-doctrine-a-decade-of-study-in-1500-words>.

⁵³ “Space Operations,” Joint Publication 3-14, April 10, 2018, http://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_14.pdf.

and experiments in place of experience. Once developed, doctrine must be tested and retested, again and again, until stakeholders are convinced that it's right.

Lack of doctrine also has impact outside the military. Johnson-Freese correctly criticizes America's failure to adequately address international space policy in a way that would make space activities less dangerous and possible space incidents less escalatory. The reason for that failure is a lack of doctrine. Failing to develop a theory of space conflict results in not knowing which policies help and which policies hurt.

Johnson-Freese also comments that the call for "space dominance" or "space superiority" seems ill-advised because the physics of space do not allow for the "air superiority" equivalent of geometric spatial control. This, too, is a doctrinal issue. Most space leaders (but not all) understand this. When they speak of "space superiority," they mean that the United States has the ability to use space for its purposes when and where it needs to, and is able to deny those same uses to an adversary. But without written and accepted doctrine, this definition is open to debate.

With no service focused on the domain of space, no one is focused on the most fundamental task. It is a central responsibility of an organize, train, and equip (OT&E) *institution* — which is the definition of a military service. And America doesn't have one.

Reason 3: The Need for a Space Cadre

At the end of the day, all military endeavors come down to people and their collective culture. It is the job of the services to recruit and train their people and to imbue them with the culture of that service. Each of the services does that differently, because the demands of an Army soldier are different than the demands of a Navy sailor, which are different still from the demands of an Air Force airman.⁵⁴ For example, the so-called “tip of the spear” in the Army is an individual soldier, usually an enlisted member. Meanwhile, the Air Force tip of the spear tends to be a commissioned officer. These cultural differences run deep and are developed over the course of a career.

Before 1947, it was those kinds of differences that were at the root of the conflict between Army Air Corps aviators and the Army itself. Army leadership believed that the primary role of air operations was to support land operations. Air Corps aviators believed that the primary role of air operations was to act deep into enemy territory as part of a strategic campaign. World War II seemed to affirm that role. So, a separate Air Force was created and a separate culture grew.

In the early days of Air Force military space (1954-1984), it was clear that the culture of space was far different from the culture of air operations. It comes as little surprise that Air Force operations were best carried out by airmen who spent the majority of their career flying aircraft. They were different from the bulk of Air Force personnel who did not fly but instead were on the support side of the force.

⁵⁴ Note that the terms soldier, sailor, and airman are generic — they describe the entire force — not just enlisted ranks.

Air Force culture dictated that those who operated aircraft would be separate from those who did not. But it was the exact opposite for space.

For space, the best leaders have developed by spending time on both sides of the operator-support divide — researching, designing, and testing space systems in one assignment, and then operating them in subsequent assignments. There was no barrier separating those who did operations from those who did not, which flew in the face of Air Force culture. For those first 30 years of space operations, the people involved were so few, and the work often so hidden, that the Air Force did not bother to question the personnel approach — and the Air Force produced true giants in space knowledge. Every single space mission being accomplished today, and many others, was conceived of, developed, and operated by that cadre of space leaders.

But beginning in 1984, the Air Force decided that space personnel needed to look more like the Air Force culture of which they were a part. That decision to separate space operators from space developers meant both sides knew less about the systems they were using, the missions they could support, and the possibilities for the future. That loss of expertise has become painfully evident in many places: the lack of Air Force leadership positions at the National Reconnaissance Office and NASA,⁵⁵ the constant overruns on programs due to poorly understood risks

⁵⁵ Prior to that time, Air Force space officers were always present in leadership roles at NASA and the National Reconnaissance Office. Since then, as the older space cadre generation retired, the Air Force lost all those roles.

from the start, and, most critically, the nearly complete cessation of the development of new types of military space mission capabilities since 1984.⁵⁶

In their excellent article, “The Requirement for a Brilliant Space Force,” authors Owen Brown and Gordon Roesler state it simply: “Space warfighters must have true expertise in the physics, engineering, and operational challenges unique to space. Any new space warfighting cadre must be deeply educated, not just trained. It must be brilliant.”⁵⁷ It is the job of an OT&E organization to develop the people and the culture — the “brilliance” for a domain. And that is precisely what is missing.

Reason 4: The Need to Be Prepared

In the opening days of America’s involvement in World War I, the U.S. air forces consisted of 26 aviators as part of the Army Signal Corps. Their role in military battles thus far had consisted almost entirely of reconnaissance missions.⁵⁸ The Signal Corps “was far behind the air forces of the warring European nations ...

⁵⁶ Since 1984, the Air Force has only introduced one new space mission, that of space-based space surveillance. Over the same time period, the National Reconnaissance Office, which maintained its space cadre expertise, pioneered multiple new missions.

⁵⁷ Owen Brown and Gordon Roesler, “The Requirements for a Brilliant Space Force,” *The Hill*, Aug. 10, 2018, <http://thehill.com/opinion/national-security/401281-the-requirements-for-a-brilliant-space-force>.

⁵⁸ Bert Frandsen, “The Birth of American Airpower in World War I,” *Air and Space Power Journal* 8 (Spring 2017): 27, https://www.airuniversity.af.mil/Portals/10/ASPJ/journals/Volume-31_Issue-3/F-Frandsen.pdf.

[and] an American combat aviation arm did not exist.”⁵⁹ Despite the fact that the airplane had been invented in America, U.S. military aviation significantly lagged. American aviators found themselves piloting foreign aircraft and woefully unprepared for the task at hand. Luckily, the country had time and distance to get it right. Hastily developed plans, executed by the likes of Benjamin Foulios, Raynal Bolling, and Billy Mitchell, with strong critical support by America’s European allies, proved sufficient to outfit the American Expeditionary Forces in time for battle.

The first space war will brook no such quarter.

The first space war, or more properly, the first war in which the United States will actively fight for “space superiority” will, by all measures, likely be a battle between peer adversaries — such is the assessment of the Department of Defense’s *National Defense Strategy*. If that is true, the space battle could easily be over before the terrestrial fight even begins.

In October 1945, while testifying before the Senate Military Affairs Committee, Gen. Hap Arnold delivered what was termed “a masterful opening statement.”⁶⁰

Each new crisis, has found our armed services far from effectively, efficiently, or economically organized. With each crisis, modernization and coordination have been hammered out under war pressure at great waste of resources.

⁵⁹ Frandsen, “The Birth of American Airpower,” 27.

⁶⁰ Herman S. Wolk, “The Founding of the Force,” *Air Force Magazine* (September 1996), 62.

For the first space war, the United States will not have time to “hammer out” what will be needed and how to do it. America can’t afford to take that risk. While no one knows how such a war might develop, the best assessments suggest that space combat operations could be over in a matter of days, if the country is not adequately prepared. Once space advantage has been lost, to paraphrase Gen. John Hyten, commander of U.S. Strategic Command, it’s back to fighting industrial-age warfare — which is exactly what America’s adversaries prefer, and exactly what cannot be allowed.

Space force detractors often point to the fact that much time and energy will be wasted pulling together the space force when both might be better spent building capability. But capability built without a doctrinal basis, by members of a space cadre who lack the necessary expertise, is likely to leave the United States unprepared for battle. Arnold’s cautionary advice, that this task is better undertaken while at peace, than at war, is therefore particularly apropos.

Reason 5: Space Shouldn’t Be an Organizational Stepchild

And finally, Johnson-Freese has already captured perfectly for us the fifth reason. Her words speak for themselves:

The Air Force is largely run by fighter pilots who will always give organizational and budget support first and foremost to “air dominance” aircraft and programs. Consequently space, as an increasingly important domain because of the public and private information assets housed there, has always been the Air Force’s organizational stepchild.

Just Do It

Change in a military bureaucracy is never easy. It's difficult, if not impossible, to point to a reorganization of the Pentagon that the Pentagon did not vociferously oppose. The last battle along those lines was the formation of Special Operations Command (SOCOM) in 1987 with Congress pushing hard to create it, and the Pentagon, led by Chairman of the Joint Chiefs of Staff Adm. William Crowe, pushing just as forcefully to avoid it. The recent Department of Defense report responding to Congress' 2018 direction for space organizational change⁶¹ is a near-perfect reflection of the futile strategy used by the department in trying to resist the creation of SOCOM — proposing half-measures that appear to address the topic, but making sure not to upset any fundamental apple cart.

The reasons presented above are a subset of all the reasons one could enumerate why the United States needs a space force. Individually, some of those reasons could be solved by some of the half-measures proposed. But to take on the full range of issues that exist, the creation of a space force is the only complete solution.

Despite his opposition to the creation of SOCOM, it was Crowe who lorded over its activation ceremony in 1987. In his address, he offered the following advice to Gen. James Lindsay, its first commander:

⁶¹ Department of Defense, *Final Report on Organizational and Management Structure for the National Security Space Components of the Department of Defense*, Aug. 9, 2018

First, break down the wall that has more or less come between special operations forces and the other parts of our military, the wall that some people will try to build higher. Second, educate the rest of the military—spread a recognition and understanding of what you do, why you do it, and how important it is that you do it. Last, integrate your efforts into the full spectrum of our military capabilities.⁶²

Our task is clear: Substitute “space” for “special operations” in the paragraph above. The Pentagon must embrace the change necessary to truly address the issues outlined above by creating a space force.

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⁶² David Tucker and Christopher Lamb, *United States Special Operations Forces* (New York: Columbia University Press, 2007), 101.

4. Finding the Space to Fight

Harvey M. Sapolsky

President Donald Trump wants to create a space force, America's sixth armed service, to assure U.S. dominance in space. It doesn't matter that America already has a sixth armed service (more on that later), and is already dominant in space. Nor does it seem to matter that the United States likely outspends the rest of the world combined on military space activities, or that it has many well-established government organizations dedicated to supporting the unhampered use of space.⁶³ Nevertheless, there is a drumbeat for enhancing America's presence in space — and Trump's demand for a space force is its most authoritative (and tweeted) expression.

The Air Force is the main budgetary channel and nominally the lead acquisition service for what the Department of Defense does in space — global communications, navigation assistance, and surveillance — although all of the actual development and procurement of classified space systems is done by a central defense agency, the National Reconnaissance Office. The Air Force is responsible for the acquisition of the Global Positioning System (GPS) and some

⁶³ Roberto A. Ferdman, "The U.S. Still Spends More on Space than Every Other Country Combined," *Washington Post*, Oct. 25, 2014, https://www.washingtonpost.com/news/wonk/wp/2014/10/25/the-u-s-still-spends-more-on-space-than-every-other-country-combined/?utm_term=.doofe6363d12; Emma Luxton, "Which Countries Spend the Most on Space Exploration?" World Economic Forum, Jan. 11, 2016, <https://www.weforum.org/agenda/2016/01/which-countries-spend-the-most-on-space-exploration>.

important strategic warning systems. It manages them in addition to some defense-wide communications satellites and the tracking of space objects via the U.S. Strategic Command (one of the combatant commands, where the Air Force Space Command is a major subordinate unit).

Perhaps because it has complained about the burden of being a provider of space services and, as Joan Johnson-Freese's essay notes, is run by fighter pilots, the Air Force takes much flak from space force advocates who believe it intentionally neglects space, preferring to focus instead on supporting America's several ongoing combat operations and recapitalizing its aging inventory of aircraft. From the advocates' perspective, space makes up only a small part (less than 8 percent of personnel)⁶⁴ of a very overcommitted Air Force, which is doing what it likes best and is best at doing: generating combat sorties and blowing up things on the ground. According to space advocates, military space needs an independent voice within the Department of Defense.

Who Are the Advocates?

There are at least two types of advocates for a U.S. Space Force. The first is the threat assessor: those who man America's many intelligence staffs, think tanks, contractor business development units, war college faculties, and congressional committee staffs. These are the men and women who worry about what the Chinese, Russians, North Koreans, Iranians, and the like are doing to undermine America's ability to prevail in any kind of warfare under any conditions. In the past, some of these forecasters of future wars imagined the possibility of a cyber

⁶⁴ "USAF Almanac 2017," *Air Force Magazine* (June 2017): 73.

Pearl Harbor, and successfully pushed for the establishment of a U.S. Cyber Command to fight America's battles in cyber space. Recognizing the military's dependence on space-based communications and surveillance systems, these advocates are certain that space is the next domain for warfare. America has to be prepared.

The second type of advocate might be called "space pioneers," proponents for the increased use of space for exploration, commerce, and colonization. Space pioneers see today's military as playing the same role the post-Civil War Army played in the American West — providing support for opening the frontier, protection, and infrastructure for space exploitation. It is difficult and costly to operate in space. However, space pioneers believe that the military — whether to ward off Martians or Russians — will find the budgets required to make space travel easier and safer. And if fear is the motivator needed for opening up this new frontier, then so be it. For the same reason, many space pioneers were enthusiastic supporters of President Ronald Reagan's Strategic Defense Initiative, the famous "Star Wars" project to build ballistic missile defenses. Whatever lifts your rocket.

What Should a Space Force Look Like?

Opposition to creating a space force — beyond the cantankerous elderly (I am still very unhappy with the disestablishment of the bilinear Navy) and the miserly budgeteers who oppose any new organization as another mouth to feed — depends on how the new service is configured. Choosing his words incredibly poorly, Trump called for a "separate but equal" armed service for space. Ignoring the civil rights analogy, most know that there is always a pecking order among

bureaucracies and that the armed services come in several different flavors. They are neither all separate nor equal.

The Six Services

At the foundation of the six armed services lie what are often called the “Big Four”: the Army, Navy, Air Force, and Marine Corps. The nation started with two services, the Army and the Navy, and acquired a third, the Air Force, after World War II, through the transformation of the Army Air Corps into, first, the Army Air Force, and then, the independent U.S. Air Force. Burdened by the aviators’ insatiable budgetary and doctrinal appetites, the Army was happy to be rid of them. The Marine Corps fought its way to independence first by capturing the public’s admiration with courageous battlefield performance in both world wars, and then by maneuvering its way politically into a full seat on the Joint Chiefs in the 1980s. That left the Army, the Corps’ longtime bureaucratic foe, to wonder what hit it. Structurally, the Big Four look much alike, with the exception of the Marine Corps, which shares a departmental secretary with the Navy and which leans on the Navy for some acquisition and support functions.

The next two services are structured differently from each other and from the Big Four. The U.S. Coast Guard, the smallest of the armed services, spends much of its life as a civilian coastal and inland waterways law enforcement and infrastructure maintenance agency. Its side business is rescuing drunk boaters on weekends. Militarily, it is the Navy’s little brother, tagging along, when allowed, to whatever fight is ongoing. When formally mobilized for war, it becomes part of the Department of the Navy. But what is most interesting about the Coast Guard is that it combines that which the Defense Department is legally mandated to keep

separate. By statute, the services are responsible for training and equipping forces that, when deployed, are commanded by joint combatant commands that report in a separate line to the president via the secretary of defense (the old bilinear structure that I love so much). In practice, the commandant of the Coast Guard is in charge of both training and equipping Coast Guard units and their operational use, without much, if any, secretarial supervision. The Coast Guard's bureaucratic placement has been difficult. Initially part of the Treasury Department, it was transferred to the Department of Transportation before ending up with the Department of Homeland Security as its peacetime home.

The sixth service is the U.S. Special Operations Command (SOCOM), created in 1986 to be the advocate and manager of America's commando forces and supporting units, which are provided by the Army, Navy, Air Force, and the Marines (although the Marines did not initially sign up: "What's so special about Special Ops?"). At SOCOM's core are various elite units including Special Forces, the Rangers, Delta Force, the SEALs, and several highly capable aviation units. The impetus for creating SOCOM was much like that driving the current call for the space force: the belief among advocates that these specialized forces were being hamstrung or neglected by the conventional military — the Army in particular — and would likely remain so unless they had their own four-star protector.

Unique among the combatant commands, SOCOM has its own acquisition budget. Those funds are controlled by the military directly rather than by civilians, as is the case for the Big Four services with their well-staffed service secretariats. SOCOM is not totally devoid of civilian supervision, however, as the assistant secretary of defense for low-intensity conflict does provide some policy guidance. SOCOM grew rapidly after 9/11, when its operational arm, the Joint Special

Operations Command, perfected the intelligence-driven night raids to roll up insurgent networks in Iraq and Afghanistan. The SEALs also led the attack that killed Osama bin Laden in Pakistan. Today, SOCOM numbers nearly 70,000, bigger than the entire Canadian military.

Which Option Is Best?

Thus, there are many ways a space force could be configured. The one least likely to work, and certain to draw the most opposition, is to expand the Big Four into the Big Five and give the space force its own secretariat and acquisition authority. This, presumably, would take a chunk out of the Air Force and require transfers of space-related activities from the other services. This would result in an unhappy Air Force and cause concerns in the other services about the loss of their own connections to space and the new dependencies created by the space force. Moreover, because the standard service structure excludes control of operating forces, the space force would only be a training and equipping organization. The “space corps” variation — modeled on the Marine Corps — would likely make the new organization a subsidiary of the Air Force, but still separate from operational activities, which would remain in U.S. Strategic Command. So limited, the space corps would antagonize both the Air Force with its parasitic nature and the advocates with its impotency and continuing link to the Air Force.

The “space guard” option, creating a service like the Coast Guard, would involve mixing civilian and military activities within the same organization. The United States already has a civilian space agency — NASA — making this variant both duplicative and awkward. As an entirely civilian agency, NASA can work with governments that prefer to avoid ties with the U.S. military. Absorbing NASA into

the space guard would tempt the military to seek its own space organizations, recreating the current circumstances. More complicating still, something would have to be done with the National Reconnaissance Office if the space guard were to be the main defense space service. This is surely the least feasible option.

That leaves the designation of a U.S. Space Command as one of the combatant commands, something that existed from 1986 until 2002, when it was disbanded and its functions were transferred to Strategic Command. During every crisis, the busy get busy and the rest devote their attention to reorganization. Embarrassingly enough, when the 9/11 attacks occurred, the military had to admit that, North American Air Defense Command (NORAD) aside, it had no overall command with the responsibility to defend the homeland. There was a Pacific Command, a European Command, a Southern Command, but no America Command. Thus, Northern Command was created, absorbing NORAD and taking on the responsibility of defending the continent against all enemies. Insanely, someone thought it was important to keep the number of combatant commands to ten, perhaps in keeping with the requirements of the enabling legislation, and U.S. Space Command was abolished. This is the stuff that feeds conspiracy theories. No doubt, both the threat assessors and the space pioneers have felt the loss ever since.

A new U.S. Space Command should look more like Special Operations Command rather than the old Space Command. That is, it should have some capability to develop space systems on its own and draw units from the other services. And, like Special Operations, it should have a joint combat-oriented, subordinate command allowing for offensive operations if they become permissible and necessary in space. It could even be called the space force. But essentially, Space

Command would be there to service the operational needs of the other combatant commands and the defense agencies, conducting vital communication and surveillance tasks that dominate current military space operations. And, as they do now, the Air Force and the other services, plus several central defense agencies, would be developing new space systems as well.

Competition Will Solve the Problem

We do not know whether space will soon become a theater of war or how the threat of possible attacks against America's interests in space will evolve. What the United States needs are many sets of eyes on the problem. All the services should be thinking about how they can use space. U.S. Space Command could provide operational coordination but should not hold a monopoly. It was competition among the services and with intelligence agencies that produced America's early Cold War lead in space-based surveillance. Interservice competition similarly pushed the United States ahead of the Soviets in ballistic missile development. There is plenty of room for everyone to work in space.

Recreating U.S. Space Command would be an easy step toward modestly enhancing the organizational status of America's space efforts without disrupting them. It is what most reorganization is about — giving symbolic recognition to advocates that their worries and their interests are important. But real progress comes only when several organizations are vying for the same job. If space becomes the next battlefield, we should want and expect all the armed services to compete in discovering America's path toward victory.

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